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EPA Public Water Systems:

Providing Our Nation's Drinking Water

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PUBLIC WATER SYSTEMS

Water is important to everyone. Water covers over two-thirds of our planet, makes up almost two-thirds of our bodies, and is present in almost every type of food and drink. In fact, we cannot live without water.

Fortunately, our planet has a lot of water — more than 300 trillion gallons. The natural "water cycle" continually replenishes this vast supply, through precipitation, runoff and percolation, evaporation, condensation, precipitation again, and so on. Because of its abundance and availability, water has many uses. Literally every home, store, business, farm, factory, church and school relies on water every day — for cooking, cleaning, and bathing, for manufacturing and industrial processes, for irrigation and livestock, for sewage removal, and most importantly, for drinking water. Imagine the inconvenience if your home or workplace was without running water for even a day or two!!

Unfortunately, not all water is "potable" or "drinkable." In fact, most water is not drinkable without some kind of treatment. Most people in our country receive their water from a public water system (only 15 percent of our population obtains their water from household wells and springs). We rely on these public water systems to gather, treat, and deliver water to us each day.

POTENTIAL THREATS TO OUR WATER SUPPLY

Delivering clean water is no easy task. Both the forces of nature and the activities of modern, industrialized society present many threats to the cleanliness and safety of our water. Many different types of contaminants can threaten our lakes, rivers, reservoirs, and groundwater wells. As a result, public water systems must work hard to make drinking water free of disease-causing contaminants and suitable for our use. Following are some examples of the potential threats to our drinking water

Threats from Nature

- Bacteria, viruses, and other microorganisms;
- Naturally occurring radioactive materials such as radium and radon;
- Naturally occurring metals, such as arsenic, cadmium, and chromium; and
- Nitrates and nitrites from the breakdown of organic wastes.

Threats from Society

- Chemicals both legally and illegally discharged from industrial and other processes;
- Runoff from city streets, parking lots, and rooftops;
- Leakage of chemicals and wastes from underground storage tanks;
- Runoff of agricultural pesticides and fertilizers;
- Leachate from landfills and waste dumps;
- Injection of waste fluids into underground wells;
- Improper use and disposal of household wastes, such as used oil, cleaning products, and lawn and garden chemicals;
- Faulty septic tanks and sewage systems.

Threats from Treatment and Distribution

- Formation of disinfection by-products such as "trihalomethanes", corrosion by-products, and other contaminants resulting from water treatment and distribution.

HOW IS OUR WATER PROTECTED?

Congress has enacted several important environmental laws which protect our nation's waters. Among these laws is one designed

solely for the protection of drinking water — **the Safe Drinking Water Act of 1974.**

This law required the development of:

- National standards for drinking water quality;
- Monitoring and reporting requirements for public water systems; and
- Regulations for underground injection of fluids.

The **U.S. Environmental Protection Agency (EPA)** responded to these requirements by establishing:

- **National Primary Drinking Water Regulations.** These are enforceable federal standards, which are established to protect the public against consumption of drinking water contaminants that present a risk to human health.
- **National Secondary Drinking Water Regulations.** These are non-enforceable (at least at a federal level) guidelines, which are established to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants or physical conditions do not present a risk to human health at these "secondary levels."
- **Provisions for state implementation and enforcement of the drinking water regulations.** States may adopt their own regulations and assume responsibility for the drinking water program, provided the state regulations are no less strict than the federal requirements (more on this later).

In 1986, Congress enacted the **Safe Drinking Water Act Amendments.** The amendments revised and expanded the regulatory program for public water supply systems. The new requirements include:

- **Revision of the National Primary Drinking Water Regulations,** which will initially result in the revision/development of regulations for 83 drinking water contaminants, to be followed by the development of regulations for 25 more contaminants every 3 years starting in 1991;
- **Revision/Development of the National Secondary Drinking Water Regulations;**
- **A ban on the use of lead materials** in public water systems and in plumbing that provides drinking water; and
- Monitoring of a group of presently **unregulated drinking water contaminants,** to gather information for future regulations.

HOW IS OUR DRINKING WATER MANAGED?

In order to understand how drinking water is managed, it is necessary to first understand who is supplying the water, and further, who is responsible for regulating the supplier.

Public Water Systems

By definition, a **"public water system"** has 15 or more service connections or regularly serves an average of at least 25 people daily at least 60 days each year. Public water systems are split into two categories: community and non-community water systems.

A **"community water system"** has at least 15 service connections used by year-round residents, or regularly serves at least 25 year-round residents. These water systems generally serve cities and towns. They may also serve special residential communities, such as mobile home parks and universities, which have their own supply of drinking water.

A **"non-community water system"** can be either a **"transient non-community system"(TNC)** or a **"non-transient non-community system"(NTNC).** TNCs typically

serve travelers and other transients at locations such as highway rest stops, restaurants, and public parks. The system serves at least 25 people a day for at least 60 days a year, but typically not the same 25 people each day. On the other hand, NTNCs do serve the same 25 persons for at least 6 months a year, but not year round. Some common examples of NTNCs are schools and factories (or other workplaces) that have their own supply of drinking water and serve 25 of the same people each day.

States' Role

Each state has the opportunity to acquire primary enforcement authority from EPA, and by doing so, assumes responsibility for the public water supply program. All states, excluding Indiana and Wyoming and the District of Columbia, have such authority. In these three cases, EPA maintains responsibility for the administration of the drinking water program.

If a state wants to acquire primary enforcement authority, then it must adopt its own health-based drinking water regulations that are no less stringent than the federal requirements (states may always be more stringent). These regulations represent the tapwater quality goals that public water systems must achieve. As such, these regulations are designed to provide both short and long term protection against adverse health effects that may result from the consumption of drinking water contaminants.

Once established, these state regulations become the enforceable standards that must be followed by all public water systems in that state. In addition, the states must ensure that the public systems continue to comply with all applicable National Primary Drinking Water Regulations. In order to provide assistance to this effort, EPA, through its 10 regional offices, provides regulatory and enforcement oversight to each of the state programs.

The states also establish state design and operation requirements for public water systems. These requirements may vary somewhat from state to state, but generally they include the following:

- acceptable operational procedures;
- acceptable design and engineering practices;
- criteria for rate determination (i.e., how and what amount to charge);
- criteria for identifying acceptable supply sources.

These state design and operation requirements ensure that public water systems are capable of achieving the federal health-based tapwater quality goals.

WHAT CAN YOU DO?

- **First**, identify your local water supplier. If you pay a water bill, the supplier's name, address and phone number should be on the bill. If you do not pay a water bill, contact your landlord, building manager, or the local health department—they should know.
- **Second**, contact your local water supplier. Ask for the list of contaminants that the supplier must monitor and the standards they must meet. Further, ask for actual monitoring results that will assure you that your water supplier is providing safe drinking water.
- **Third**, if you need further assistance or more information, contact your state drinking water program. Most state programs are located in the state capital (or another major city), and are usually part of the state department of health or environmental regulation. Consult the blue "government pages" of your local phone book, or call the Safe Drinking Water Hotline.

- **Fourth,** learn as much as possible about your local water supply — Who owns or operates the system? How can you become active in ensuring that your public water system supplies safe drinking water? How can you support your water supplier's efforts to improve existing facilities? Answers to these questions can be obtained from your local water supplier, your state drinking water program, or your county or city government.
- **Finally,** support rate increases, where necessary, to upgrade your local water supplier's treatment facilities in order to meet drinking water standards.

FOR MORE INFORMATION

For a good general overview of the public water supply program and some insights into the citizen's role, write or call to obtain these two booklets:

Safety on Tap: A Citizen's Drinking Water Handbook. Available from League of Women Voters of the United States, 1730 M Street, NW, Washington, DC 20036. (202) 429-1965. Publication #840.

Drinking Water: A Community Action Guide. Available from CONCERN, Inc., 1794 Columbia Road, NW, Washington, DC 20009. (202)328-8160.

For more information on drinking water laws and regulations, including a list of the state drinking water programs, write:

U.S. Environmental Protection Agency
Office of Drinking Water
401 M Street, SW
Washington, DC 20460

Or call: The Safe Drinking Water Hotline
(800) 426-4791 or (202) 382-5533

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